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**RAW SEQUENCE LISTING**  
**PATENT APPLICATION: US/09/674,237A**

DATE: 10/03/2001  
 TIME: 08:24:49

Input Set : A:\3477.89 Sequence Listing.txt  
 Output Set: N:\CRF3\10032001\I674237A.raw

3 <110> APPLICANT: Egan, Sean E.  
 4       Wang, Wei  
 5       Sengar, Ameet  
 7 <120> TITLE OF INVENTION: ESE GENES AND PROTEINS  
 9 <130> FILE REFERENCE: 3477.89  
 11 <140> CURRENT APPLICATION NUMBER: US 09/674,237A  
 12 <141> CURRENT FILING DATE: 1999-04-27  
 14 <150> PRIOR APPLICATION NUMBER: PCT/CA99/00375  
 15 <151> PRIOR FILING DATE: 1999-04-27  
 17 <150> PRIOR APPLICATION NUMBER: US 60/118,739  
 18 <151> PRIOR FILING DATE: 1999-02-05  
 20 <150> PRIOR APPLICATION NUMBER: CA 2230201  
 21 <151> PRIOR FILING DATE: 1998-04-27  
 23 <160> NUMBER OF SEQ ID NOS: 33  
 25 <170> SOFTWARE: PatentIn version 3.1  
 27 <210> SEQ ID NO: 1  
 28 <211> LENGTH: 5084  
 29 <212> TYPE: DNA  
 30 <213> ORGANISM: Mus musculus  
 32 <400> SEQUENCE: 1

ENTERED

P.S.

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37 cgggcggggta ttgtgtgcgc ggctgcggac tcgggttcc tcgcgcggcg tgccggctgc	180
39 actgattttgt gtgaggggcg gcccgcgcga cccgcgcggaa gatgaggcgat cgatcagcaa	240
41 ggtgaacgtatagaaccat ggctcagttt cccacaccc ttgcgttgttag cctggatgtc	300
43 tggccataactgtggagga aaggggccaag catgaccagc agttcccttag cctgaagccg	360
45 atagcgggat ttattactgg tgatcaagcg aggaactttt ttttccaatc tgggttaccc	420
47 cagcctgtct tagcacaaat atgggcgcta gcggacatga ataacgatgg aaggatggat	480
49 caagtggaat ttccatagc catgaagctt atcaaactga agctacaagg atatoagctc	540
51 ccctccacac ttccccctgt catgaaacag caaccagtgg ctattccag tgcaccagca	600
53 ttggtatag gagggattgc tagcatgcca ccactcacag ctgttgcgtcc tggccaaatg	660
55 ggctccatttc cagttgttgg aatgtctcca cccttagtat cttctgtccc tccagcagca	720
57 gtgcctcccc tggctaacgg ggctccccc gtcatcacgc ctctgcgtc gtttgcgcatt	780
59 cctgcagccaa catggccaaa gagttcttcc ttcatcacgc ctggccagg gtcacaatta	840
61 aacactaagt tacagaaggc acaatcatc gatgtgcgcg ggcgcctcc agcagcagaa	900
63 tggcgtgtc ctcagtcatac aaggctgaaa tacaggcagt tattcaacag ccacgacaaa	960
65 actatgagtg gacacttaac aggtccccag gcaagaacta ttctcatgc atcaagttt	1020
67 ccccaggctc agctggcttc aatatggaaat ctttctgaca ttgtatcaaga tggaaaactc	1080
69 actgcagaag aatttataatcct agctatgcac ctaattgtat ttgcctatgc tggcagccaa	1140
71 ctgcccccgc tcctgcctcc agaatacatac cctcccttc tcagaagagt tcgcctccggc	1200
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77 gagaacttcg agcgaggcag ttggagctg gagaagccgc gccaagcgct cttggagcag	1380
79 cagcgcacaaag agcaggagcg gttggctcag ctggagccgc ccgagcagga gaggaaagag	1440
81 cgggagccgc aggagcagga ggcacgcgg cagctggagc ttggagaagca gctggagaag	1500
83 cagcggggcgc tggagccgc gcgagaggag gagaggagga aggatgcg gaggccgcgag	1560
85 gccgcacaaac gggacttggaa aaggcagcga caacttgaat gggacggaa ccggagacag	1620

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91	cttcaggata	tcagggtcg	actggcaacc	cagaggcaag	aaattgagag	cacgaacaag	1800
93	tcttagagac	taagaattgc	tgaaatcacc	cacttacagc	agcagttgca	ggaatctcg	1860
95	caaatagttt	gaagacttat	tccagagaaa	cagatactca	gtgaccgatt	aaaacaagtc	1920
97	cagcagaaca	gtttgcata	agactcgctt	cttaccctca	aaagagcctt	ggaagcaaag	1980
99	gagctggccc	ggcagcagct	ccgggagcg	ctggacgagg	tggagagaga	gaccaggtca	2040
101	aagctgcagg	agattgtatgt	tttcaacaac	cagctgaagg	aactgagaga	gatacatagc	2100
103	aaacacgcaac	tccagaagca	gaggtccctg	gaggcagcgc	gactgaagca	gaaagagcag	2160
105	gagaggaaga	gcctggagtt	agagaagcaa	aaggaaagacg	ctcagagacg	agttcaggaa	2220
107	agggacaacg	aatggctgga	gcatgtgcag	caggaggagc	agccacgc	ccggaaaccc	2280
109	cacgaggagg	acagactgaa	gagggaaagac	agtgtcagga	agaaggaggc	ggaagagaga	2340
111	gccaaagccgg	aaatgcaaga	caagcagagt	cggctttcc	atccgcata	ggagccagct	2400
113	aagctggcca	cccaggcacc	ctggcttacc	acagagaaag	gcccgttac	catttctgca	2460
115	caggagagtg	taaaagtgg	atattaccga	gcgcgttacc	ccttgaatc	cagaagtcac	2520
117	gatgagatca	ccatccagcc	aggagatata	gtcatggtg	atgaaagcca	gactggagag	2580
119	ccaggatggc	ttggaggaga	gctgaaaggg	aagacggat	ggttccctgc	aaactatgca	2640
121	aaaaagattc	cagaaaaatga	gttcccact	ccagccaaac	cagtgaccga	tctgacatct	2700
123	gccccctgccc	ccaaactggc	tctgcgttag	accctgctc	cttgcctgt	gaccttct	2760
125	gagccctcca	caaccccaa	caactggca	gacttcgtt	ccacgtggcc	cagcagctca	2820
127	aacgagaagc	cagaaacgga	caactggat	acgtggcgg	ctcagccttc	tctgaccgt	2880
129	cctagtgcgt	gccagttacg	gcagagatca	gccttaccc	cagccacagc	cactggctcc	2940
131	tccccatctc	ccgtcctggg	ccaggggtaa	aaggtggaaag	ggttacaagc	gcaagccctg	3000
133	tatccctgga	gagccaaaaa	agacaaccac	ttaaattta	acaaaagtga	cgtcatcacc	3060
135	gttctggAAC	agcaagacat	gtgggtgtt	ggagaagttc	aggtcagaa	gggttggttc	3120
137	cccaagtctt	acgtgaaact	catttcagg	cccgtaagga	atccacaag	catcgatact	3180
139	ggccctactg	aaagtccctgc	tagtctaaag	agagttggctt	ccccggccgc	caagccagcc	3240
141	attcccgag	aagagtttat	tgccatgtac	acatacgaga	gttctgagca	aggagattta	3300
143	accttgcagc	aaggggatgt	gattgtgg	accaagaaag	atggtgactg	gtggacggga	3360
145	acgggtggcgc	acaagtccgg	agtcttccot	tctaactatg	tgaggcttaa	agattcagag	3420
147	ggctctggaa	ctgctggaa	aacaggagat	ttagaaaaaa	aacctgaaat	tgcccaggtt	3480
149	attgcttcct	acgctgtac	tggtcccga	caactcaccc	tggctcctgg	gcagctgatt	3540
151	ctgatccggaa	aaaagaaccc	agttggatgg	tgggaaggag	aactgcaagc	tcgaggaaaa	3600
153	aagcgccaga	tagggtgg	tcagcaaat	tatgtcaaac	ttctaagccc	cggaacaagc	3660
155	aaaatcaccc	caactgagct	acccaagagcc	gcagtgcagc	cagcagttgt	ccaggtgatc	3720
157	gggatgtacg	attacaccgc	ccagaacat	gacgaactag	ccttcagcaa	aggccagatc	3780
159	atcaacgtcc	tcaacaagga	ggacccggac	tggtgaaag	gagaagtcag	tgggcaagtt	3840
161	gggctcttcc	catccaatta	tgtaaagctg	accacagaca	tggaccccag	ccagcaatga	3900
163	atcatatgtt	gtccatcccc	ccctcaggct	tgaaagtctt	caaagagacc	cactatccca	3960
165	tatcaactgccc	cagagggatg	atgggagatg	cagccttgc	catgtgactt	gcagcatgat	4020
167	cacctactgc	cttctgagta	gaagaactca	ctgcagagca	gtttacctca	tttgaccta	4080
169	gttgcattgt	atcgaaatgt	ctgagtcact	gcgtgcagag	gcagaagcaa	attgcagaac	4140
171	tgcacagggt	ggtgggtctt	tttggggctt	tccttagtac	tcaactgac	cggccccggcc	4200
173	ttcacacgggg	cgcttcaat	agtttaaga	ttatTTAA	atgtgtattt	tagccttta	4260
175	ataaaaaatct	caatcaatta	cttcttgcc	tatTTGGT	ttacaaaaac	acccactatc	4320
177	aaggagtgc	tgtctgcgga	cgattaaaaat	gctgtccgg	gcttaccgt	aactgagagc	4380
179	ttgctgtacc	tttgcgtt	gtccagtgtt	cccaaccaca	tttgttagtt	tggggctgtt	4440
181	ccctggcgta	gagcacagag	gagatgggt	tacctgttt	gaaaatgtgt	atgttagactg	4500
183	agcctgacta	tggaaagggt	tatgcttgc	tgtgaccatc	acgtgtac	gtcqcqcatg	4560

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185 taccatctgt accgaagaag tagctcttcc tccatggcta aacccaccac cgtgtacagt 4620  
 187 gctctcatct actgcattca ttttactttg cacagtgacc ttgttagccac ctgaggaagc 4680  
 189 acccatgttt ccgtttggtc tcagatgtac ctgttgtgc ccgtgttttgc ttttatttt 4740  
 191 tcaatctggc atgtcttcac accataaact agtaagacgc caactgcccga ggcggttacg 4800  
 193 atcatcagta cccaccgtct tagtctctgt tacgtgaagt ttattccagt tgcttttat 4860  
 195 ggaatatctt gaacaagtaa tcttcttgac aagaaagaat gtatagaagt ctccctgcaa 4920  
 197 ttaatttccc agtgttaca ttttttaact agactgtggg ggttgctaca gattaatatg 4980  
 199 aaatggcgct cctggtccgt gtgtgtgtta acttgtgctg tagctgaagc cgtgtgtcct 5040  
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 207 <213> ORGANISM: Mus musculus  
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 210 <221> NAME/KEY: CDS  
 211 <222> LOCATION: (1)..(3642)  
 212 <223> OTHER INFORMATION: Mouse Esel  
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 218 1 5 10 15  
 220 ata act gtg gag gaa agg gcc aag cat gac cag cag ttc ctt agc ctg 96  
 221 Ile Thr Val Glu Glu Arg Ala Lys His Asp Gln Gln Phe Leu Ser Leu  
 222 20 25 30  
 224 aag ccg ata gcg gga ttt att act ggt gat caa gcg agg aac ttt ttt 144  
 225 Lys Pro Ile Ala Gly Phe Ile Thr Gly Asp Gln Ala Arg Asn Phe Phe  
 226 35 40 45  
 228 ttc caa tct ggg tta cct cag cct gtc tta gca caa ata tgg gcg cta 192  
 229 Phe Gln Ser Gly Leu Pro Gln Pro Val Leu Ala Gln Ile Trp Ala Leu  
 230 50 55 60  
 232 gcg gac atg aat aac gat gga agg atg gat caa gtg gaa ttt tcc ata 240  
 233 Ala Asp Met Asn Asn Asp Gly Arg Met Asp Gln Val Glu Phe Ser Ile  
 234 65 70 75 80  
 236 gcc atg aag ctt atc aaa ctg aag cta caa gga tat cag ctc ccc tcc 288  
 237 Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Tyr Gln Leu Pro Ser  
 238 85 90 95  
 240 aca ctt ccc cct gtc atg aaa cag caa cca gtg gct att tcc agt gca 336  
 241 Thr Leu Pro Pro Val Met Lys Gln Gln Pro Val Ala Ile Ser Ser Ala  
 242 100 105 110  
 244 cca gca ttt ggt ata gga ggg att gct agc atg cca cca ctc aca gct 384  
 245 Pro Ala Phe Gly Ile Gly Gly Ile Ala Ser Met Pro Pro Leu Thr Ala  
 246 115 120 125  
 248 gtt gct cct gtg cca atg ggc tcc att cca gtt gtt gga atg tct cca 432  
 249 Val Ala Pro Val Pro Met Gly Ser Ile Pro Val Val Gly Met Ser Pro  
 250 130 135 140  
 252 ccc tta gta tct tct gtc cct cca gca gca gtg cct ccc ctg gct aac 480  
 253 Pro Leu Val Ser Ser Val Pro Pro Ala Ala Val Pro Pro Leu Ala Asn  
 254 145 150 155 160  
 256 ggg gct cct ccc gtc ata cag cct ctg cct gcg ttt gcg cat cct gca 528  
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257	Gly Ala Pro Pro Val Ile Gln Pro Leu Pro Ala Phe Ala His Pro Ala			
258	165	170	175	
260	gcc aca tgg cca aag agt tct tcc agc aga tct ggt cca ggg tca			
261	Ala Thr Trp Pro Lys Ser Ser Phe Ser Arg Ser Gly Pro Gly Ser			576
262	180	185	190	
264	caa tta aac act aag tta cag aag gca caa tca ttc gat gtc gcc agc			
265	Gln Leu Asn Thr Lys Leu Gln Lys Ala Gln Ser Phe Asp Val Ala Ser			624
266	195	200	205	
268	gcc cct cca gca gca gaa tgg gct gtg cct cag tca tca agg ctg aaa			
269	Ala Pro Pro Ala Ala Glu Trp Ala Val Pro Gln Ser Ser Arg Leu Lys			672
270	210	215	220	
272	tac agg cag tta ttc aac agc cac gac aaa act atg agt gga cac tta			
273	Tyr Arg Gln Leu Phe Asn Ser His Asp Lys Thr Met Ser Gly His Leu			720
274	225	230	235	240
276	aca ggt ccc cag gca aga act att ctc atg caa tca agt tta ccc cag			
277	Thr Gly Pro Gln Ala Arg Thr Ile Leu Met Gln Ser Ser Leu Pro Gln			768
278	245	250	255	
280	gct cag ctg gct tca ata tgg aat ctt tct gac att gat caa gat gga			
281	Ala Gln Leu Ala Ser Ile Trp Asn Leu Ser Asp Ile Asp Gln Asp Gly			816
282	260	265	270	
284	aaa ctc act gca gaa gaa ttt atc cta gct atg cac cta att gat gtt			
285	Lys Leu Thr Ala Glu Glu Phe Ile Leu Ala Met His Leu Ile Asp Val			864
286	275	280	285	
288	gcc atg tct ggt cag cca ctg ccg ccc gtc ctg cct cca gaa tac atc			
289	Ala Met Ser Gly Gln Pro Leu Pro Pro Val Leu Pro Pro Glu Tyr Ile			912
290	290	295	300	
292	cct cct tcc ttc aga aga gtt cgc tcc ggc agt ggg atg tcc gtc ata			
293	Pro Pro Ser Phe Arg Arg Val Arg Ser Gly Ser Gly Met Ser Val Ile			960
294	305	310	315	320
296	agc tct tct gtg gat cag agg ctg cct gag gag ccg tcg tca gag			
297	Ser Ser Ser Val Asp Gln Arg Leu Pro Glu Glu Pro Ser Ser Glu			1008
298	325	330	335	
300	gat gag cag cag cca gag aag aaa ctg cct gtg aca ttt gaa gat aag			
301	Asp Glu Gln Gln Pro Glu Lys Lys Leu Pro Val Thr Phe Glu Asp Lys			1056
302	340	345	350	
304	aag cgg gag aac ttc gag cga ggc agt gtg gag ctg gag aag cgc cgc			
305	Lys Arg Glu Asn Phe Glu Arg Gly Ser Val Glu Leu Glu Lys Arg Arg			1104
306	355	360	365	
308	caa gcg ctc ttg gag cag cag cgc aaa gag cag gag cgg ttg gct cag			
309	Gln Ala Leu Leu Glu Gln Gln Arg Lys Glu Gln Glu Arg Leu Ala Gln			1152
310	370	375	380	
312	ctg gag cgc gcc gag cag gag agg aaa gag cgg gag cgc cag gag cag			
313	Leu Glu Arg Ala Glu Gln Glu Arg Lys Glu Arg Glu Arg Gln Glu Gln			1200
314	385	390	395	400
316	gag gcc aag cgg cag ctg gag ctg gag aag cag ctg gag aag cag cgg			
317	Glu Ala Lys Arg Gln Leu Glu Leu Glu Lys Gln Leu Glu Lys Gln Arg			1248
318	405	410	415	
320	gag ctg gag cgg cag cga gag gag gag agg aag gag atc gag agg			
321	Glu Leu Glu Arg Gln Arg Glu Glu Arg Arg Lys Glu Ile Glu Arg			1296

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324	cgc gag gcc gca aaa cgg gaa ctg gaa agg cag cga caa ctt gaa tgg			1344
325	Arg Glu Ala Ala Lys Arg Glu Leu Glu Arg Gln Arg Gln Leu Glu Trp			
326	435	440	445	
328	gaa cgg aac cgg aga cag gaa ctc ctg aat cag agg aac aag gag cag			1392
329	Glu Arg Asn Arg Arg Gln Glu Leu Leu Asn Gln Arg Asn Lys Glu Gln			
330	450	455	460	
332	gag ggc acc gtg gtc ctg aag gca agg agg aag act ctg gag ttt gag			1440
333	Glu Gly Thr Val Val Leu Lys Ala Arg Arg Lys Thr Leu Glu Phe Glu			
334	465	470	475	480
336	tta gaa gct ctg aat gac aaa aag cat cag cta gaa gga aaa ctt cag			1488
337	Leu Glu Ala Leu Asn Asp Lys Lys His Gln Leu Glu Gly Lys Leu Gln			
338	485	490	495	
340	gat atc agg tgt cga ctg gca acc cag agg caa gaa att gag agc acg			1536
341	Asp Ile Arg Cys Arg Leu Ala Thr Gln Arg Gln Glu Ile Glu Ser Thr			
342	500	505	510	
344	aac aag tct aga gag cta aga att gct gaa atc acc cac tta cag cag			1584
345	Asn Lys Ser Arg Glu Leu Arg Ile Ala Glu Ile Thr His Leu Gln Gln			
346	515	520	525	
348	cag ttg cag gaa tct cag caa atg ctt gga aga ctt att cca gag aaa			1632
349	Gln Leu Gln Glu Ser Gln Gln Met Leu Gly Arg Leu Ile Pro Glu Lys			
350	530	535	540	
352	cag ata ctc agt gac cag tta aaa caa gtc cag cag aac agt ttg cat			1680
353	Gln Ile Leu Ser Asp Gln Leu Lys Gln Val Gln Gln Asn Ser Leu His			
354	545	550	555	560
356	aga gac tcg ctt ctt acc ctc aaa aga gcc ttg gaa gca aag gag ctg			1728
357	Arg Asp Ser Leu Leu Thr Leu Lys Arg Ala Leu Glu Ala Lys Glu Leu			
358	565	570	575	
360	gcc cgg cag cag ctc cgg gag cag ctg gac gag gtg gag aga gag acc			1776
361	Ala Arg Gln Gln Leu Arg Glu Gln Leu Asp Glu Val Glu Arg Glu Thr			
362	580	585	590	
364	agg tca aag ctg cag gag att gat gtt ttc aac aac cag ctg aag gaa			1824
365	Arg Ser Lys Leu Gln Glu Ile Asp Val Phe Asn Asn Gln Leu Lys Glu			
366	595	600	605	
368	ctg aga gag ata cat agc aaa cag caa ctc cag aag cag agg tcc ctg			1872
369	Leu Arg Glu Ile His Ser Lys Gln Gln Leu Gln Lys Gln Arg Ser Leu			
370	610	615	620	
372	gag gca gcg cga ctg aag cag aaa gag cag gag agg aag agc ctg gag			1920
373	Glu Ala Ala Arg Leu Lys Gln Lys Glu Gln Glu Arg Lys Ser Leu Glu			
374	625	630	635	640
376	tta gag aag caa aag gaa gac gct cag aga cga gtt cag gaa agg gag			1968
377	Leu Glu Lys Gln Lys Glu Asp Ala Gln Arg Arg Val Gln Glu Arg Asp			
378	645	650	655	
380	aag caa tgg ctg gag cat gtg cag cag gag cag cca cgc ccc cgg			2016
381	Lys Gln Trp Leu Glu His Val Gln Gln Glu Glu Gln Pro Arg Pro Arg			
382	660	665	670	
384	aaa ccc cac gag gag gac aga ctg aag agg gaa gac agt gtc agg aag			2064
385	Lys Pro His Glu Glu Asp Arg Leu Lys Arg Glu Asp Ser Val Arg Lys			
386	675	680	685	

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

**VERIFICATION SUMMARY**

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L:2218 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18